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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/677,698	09/28/2000	Rajendran Nair	42390.P9239	3386

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Blakely Sokoloff Taylor & Zafman LLP
12400 Wilshire Boulevard
7th Floor
Los Angeles, CA 90025

EXAMINER

RAO, SHRINIVAS H

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 06/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/677,698

Applicant(s)

NAIR ET AL.

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-7 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Response to Amendment

Applicants' amendment filed on March 18, 2002 has been entered on April 09, 2002.

Therefore claims 2-4 and 16 as amended by the amendment and claims 1, 5-7, 15 and 17-19 as originally filed are currently pending in the application. Claims 8-14 have been withdrawn from consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-7 and 15-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claims 2-4 and 16-18 all recite, " gate region material" . It is not clear whether applicants' mean the gate electrode or the region surrounding the gate by this recitation.

Appropriate correction is required.

b) Applicants' have not responded to the second 112 rejection in the previous office action, namely that should claims 1-7 should be found to be allowable, claims 15-19 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

This rejection is also made Final.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stein et al. (U.S. Patent No. 4,055, 837, herein after Stein) previously applied.

With respect to claim 1, it is rejected for reasons set out in the previous office action and for the reasons set out below.

Applicants' have not amended claim 1 in their instant response but have attempted to distinguish the applied Stein reference over the claim by alleging that Stein only describes the shifting of the location of the flat band (magnitude) in connection with MNOS capacitor 2, whereas the claims recite, " a metal-oxide-semiconductor transistor with a shifted flat band magnitude" and conclude that, " for this reason, applicants submit that the invention of claim 1 is not anticipated by Stein." (emphasis supplied).

It is noted that, the previous rejection of claim 1 was based on upon 35 U.S. C 103 (i.e. obviousness) and the question of Stein anticipating claim 1 does not arise.

It is also noted that Applicants' specification throughout the specification describes its Mos transistor as being used as inversion or depletion capacitor,

for example : specification page 1 lines 5- 6 describes, " the invention relates to a decoupling capacitor... more specifically , to a weak inversion capacitor for an integrated circuit." (emphasis supplied).

Specification page 5 lines 3-5, " schematic diagram of the PMOS transistor 100 of figure 1 configured as a strong inversion capacitor 200 is shown.

Specification page 5 lines 17-20, " PMOS as depletion mode capacitor 300."

Figs 2-4 describe capacitor.

Fig. 4 is describes as showing the capacitance -to -voltage chart of the capacitor.

Fig. 6 describes the transistor shown in Fig. 5 (as specifically mentioned in applicants' response) as a weak inversion capacitor.

Fig. 7 and specification page 10 lines 21-24 describe the shifting of the flat band voltage of the capacitor shown in fig. 5.

Therefore the entire specification describes the use of the transistor as a capacitor only.

Therefore when the claims are read in light of the specification it is clear that applicants' are using the transistor as a capacitor.

What is true for the applicants' is also true for the prior art , there fore transistors used as capacitors can be compared and have similar properties of the capacitor.

Further it is well known in the art to use the transistor as a capacitor or vice versa (See U.S. Patent Nos. 4,250,414-Kirsch and 4,529,889- Dumbri using transistor as capacitor or vice versa U.S. Patent no. 6,219,270).

Therefore for all the above reasons it is clear one skilled in the art at the time of the invention would have interchangeably used transistor and capacitor, in a memory device as recited.

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Therefore claim 1 is rejected as being obvious over Stein.

The amendments to claims 2-5 and 9 are changing of, " gate area" to "gate region" which does not change the scope of the claims but rather is an attempt to overcome the 112 rejection,

Claims 2-7 were alleged to be allowable as they depend upon allegedly allowable claim 1.

However, as shown claim 1 is not allowable, therefore claims 2 and 5-7 are also not allowable and are rejected over the combination of Stein as applied to claim1 above and Dawson et al. (U.S. Patent No. 5,851,891, herein after Dawson) for reasons previously stated and those stated above claims 3-4 are rejected over the combination of Stein as applied to claim1 above and Dawson et al. (U.S. Patent No. 5,851,891, herein after Dawson) and further in view of Howard (U.S. Patent No. 4,437,139) for reasons previously stated and those stated above.

Claim 15 is argued to be allowable because it was previously rejected "for reasons stated under claims 1-5 above" and since claim 1 is believed allowable, claim 15 must also be allowable.

As shown above claim 1 is not allowable and therefore claim 15 is also not allowable and is rejected

Claims 16 -19 were alleged to be allowable because they depend upon allegedly allowable claim 15.

However claim 15 is not allowable and therefore claims 16-19 are also not allowable and rejected for reasons previously set out and those stated above.

Response to Arguments

Applicant's arguments filed on March 18, 2002 have been fully considered but they are not persuasive for reasons set out in detail above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

As the same references as previously used are only also used here this is a separate basis for making the instant office action Final.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is (703) 3065945. The examiner can normally be reached on 8.00 to 5.00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaudhuri Olik can be reached on (703)3062794. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 7463926

for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 3067722.



Steven H. Rao
Patent Examiner
June 5, 2002



OLIK CHAUDHURI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800